



Practitioner's Docket No. 08479-39460

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: J. Britton Zabka  
Application No.: 09/823,408  
Filed: 03/30/2001

Group No.: 2872  
Examiner: CHANG, Audrey Y  
For: METHODS AND APPARATUS FOR PRODUCING SIMULTANEOUS AND  
NEAR REAL TIME HOLOGRAPHIC IMAGERY  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

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**RESPONSE TO OFFICE ACTION OF 03/31/2003**

In response to the Office Action, please amend the claims as follows:

1. (Thrice amended) A holographic printer comprising:

- (a) a source of coherent light;
- (b) means for dividing said source into an object beam and a reference beam, said object beam having a beam path, said reference beam having at least one beam path;
- (c) means, positioned along said object beam path, for positioning an image in said object beam path;
- (d) means for supporting a recording medium in both said object beam path and said reference beam path;
- (e) means, positioned along said reference beam path between said source dividing means and said recording medium support, for dividing said reference beam into at least three substantially identical reference beams,

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each having its own path, each of said reference beam paths intersecting said object beam path at said recording medium support; and

- C1
- (f) a plurality of shutter means, said plurality of shutter means including a shutter means positioned in said object beam path between said ~~means~~ source for dividing means and said recording medium support, said plurality of shutter means also including a shutter means for each of said at least three reference beams.
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C2

2. (Amended) The printer of claim 1, wherein said ~~means for~~ reference beam dividing means includes a plurality of optical fibers.

3. (Amended) The printer of claim 2, wherein said object beam path, from said source means for dividing means to said recording medium support, has a given length, and wherein each of said reference beam paths, from said source means for dividing means to said recording medium support has said given length.

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C3

15. (Thrice amended) The printer of claim 1, further including shutter control means for controlling each of said plurality of shutter means, said shutter control means including means for sequentially opening each of said reference beam shutter means, said shutter control means also including means ~~for opening also including means for opening~~ said object beam shutter each time one of said reference beam shutter means is opened.

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C4

37. (Amended) A method of forming a holographic image in a recording medium with a printer having an object beam path and a plurality of identical reference beam paths, said method including the steps of:

- c4
- (a) positioning a recording medium in both said object beam and said referenced beam paths;
  - (b) positioning an image in said object beam path;
  - (c) exposing said image and said recording medium to an object beam;
  - (d) simultaneously with said object beam exposure, exposing said recording medium to a first reference beam via one of said reference beam paths;
  - (e) changing said image;
  - (f) exposing said changed image and said recording medium with said object beam; and
  - (g) simultaneously with said second exposure of said object beam, exposing said recording medium to a second reference beam via another of said reference beam paths, said second reference beam being identical to said first reference beam.

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#### REMARKS

In response to the Office Action of March 31, 2003, claims 1, 2, 3, 8 and 15 have been edited to remove the minor ambiguities referenced by the Examiner in Section 2 of the Office Action. No change of scope is intended. With regard to "substantially" it is submitted that those skilled in the art would understand the term. In this connection please note U.S. patent No. 6,262,819 B1, col. 8, // 27-32.

The rejections based on Bencze, et al. are traversed for a number of reasons. First, Bencze, et al. does not disclose Applicant's claimed "means ... for dividing said